

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

In response to the objection to the drawings as expressed in section 2 of the Office Action, new replacement formal drawings (Figs. 5(a) and 5(b)) are provided herewith. Fig. 5(a) is a partially exploded perspective view of the magnetic encoder showing plural weld-adhering parts or welds 4. And, Fig. 5(b) is a plan view showing the plural weld-adhering parts or welds. No new matter has been added by these figures. The specification has been correspondingly amended to make reference to these new figures, and also to express that the "weld-adhering parts" are --welds--. Thus, it is respectfully submitted that the drawing objections have been obviated.

In addition to the amendments made to specification as expressed in the preceding paragraph, the specification and abstract have been further reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

The title as suggested by the Examiner has not been accepted, because it is believed that this title is not accurate since the instant invention does not pertain to welding two plates to one another, but rather pertains to welding a cover to a reinforcing plate. Accordingly, the title has been changed to --Magnetic Encoder With Cover Welded To Reinforcing Ring--.

By the current Amendment, claims 1-3 have been cancelled and claims 4-14 have been added. These new claims have been drafted taking into account the Examiner's objections to claim 1 as expressed in section 5 of the Office Action, are believed to be free of this objection, and are otherwise believed to be in compliance with 35 U.S.C. § 112, second paragraph.

The instant invention pertains to a magnetic encoder including a magnetic ring, a reinforcing ring and a protective cover. Such a magnetic encoder is generally known in the art, but suffers from drawbacks because of the manner by which the protective cover is connected to the reinforcing ring as explained in the "Description of the Related Art" on pages 1-4 of the original specification. Applicant has addressed and resolved these drawbacks by providing a unique magnetic encoder, wherein the protective cover is welded to the reinforcing ring.

Specifically, with reference to Figs. 1-5(b), the magnetic encoder comprises a magnetic ring 1, a reinforcing ring 2 fixed to the magnetic ring, and a non-magnetic protective cover 3 covering the magnetic ring. The non-magnetic protective cover 3 is welded to the reinforcing ring 2, either along an inner circumference of the cover, along an outer circumference of the cover, or along both the inner circumference and outer circumference of the cover. Because the cover 3 is welded to the reinforcing ring 2, integrity between the reinforcing ring and the cover can be enhanced, a tough integrated structure can be obtained, and a high attachment precision can be realized which leads to enhancement of a sensing precision of a magnetic sensor and enhancement of a measurement precision of the magnetic encoder. Claim 4 is believed to be representative of Applicant's inventive magnetic encoder.

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Kobayashi et al., and claims 2 and 3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art in view of Kobayashi et al. and Ochiai et al. These rejections are respectfully traversed, and the references relied upon by the Examiner are not applicable with regard to the newly added claims for the following reasons.

In rejecting claim 1 as being obvious over Applicant's Admitted Prior Art in view of Kobayashi et al., the Examiner recognized that Applicant's Admitted Prior Art does not disclose a protective cover which is welded to a reinforcing ring. Thus, the Examiner relied upon Kobayashi et al. for concluding that one having ordinary skill in the art would have found it obvious to weld the protective cover of Applicant's Admitted Prior Art to the reinforcing ring thereof. This position taken by the Examiner is respectfully traversed for the following reasons.

In Kobayashi et al., magnetized ring 3 is welded to an inner side of a inwardly bent flange 5 of a press-in ring 4. To the contrary, in the instant invention, the protecting cover 3, which covers the magnetic ring 1 fixed on a flange part 2b of reinforcing ring 2, is welded to the reinforcing ring. Kobayashi et al. does not disclose or suggest a cover for the magnetized ring 3, let alone welding such a cover to a reinforcing ring. The purpose of welding the magnetized ring 3 to the press-in ring 4 of Kobayashi is clearly different from the purposes of welding the protecting cover 3 to the reinforcing ring 2 in accordance with the instant invention, as explained above. As such, it is not seen how welding a magnetized ring to another ring, as taught by Kobayashi et al., would teach anything

to one having ordinary skill in the art with regard to welding a **protective cover** to a reinforcing ring. Thus, claim 4 is allowable over a combination of Applicant's Admitted Prior Art and Kobayashi et al.

Ochiai et al. does not resolve the above deficiencies of Kobayashi et al. and Applicant's Admitted Prior Art, and accordingly, claim 4 is allowable over the prior art relied upon by the Examiner either taken alone or in combination. Thus, claims 4-14 are allowable.

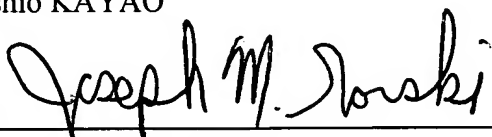
Furthermore, claims 5 and 12 are each believed to be patentable in its own right because these claims recite a location of the welding which is not taught or suggested by the prior art. In this regard, claims 5 and 12 require that the welding is along one or both of the inner circumference and outer circumference of the protective cover. By having the welding be so located, distortion and thermal influence on portions other than where the welding exists can be minimized. Kobayashi et al. is not concerned with minimizing such distortion and thermal influence. Thus, claims 5 and 12 are patentable in their own right.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicant's undersigned representative by telephone to resolve such issues.

Respectfully submitted,

Toshio KAYAO

By: 
Joseph M. Gorski
Registration No. 46,500
Attorney for Applicant

JMG/edg
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
January 3, 2005

AMENDMENTS TO THE DRAWINGS:

Formal Drawings for Figures 5(a)-5(b) have been filed concurrently.